

AMENDMENTS TO THE SPECIFICATION

THE TITLE OF THE INVENTION:

Please delete the title originally filed with the application and replace with the following new title:

A DIGITAL DEMODULATING DEVICE IN A DIGITAL TV RECEIVER

In the Specification:

Please replace paragraph [0001] on page 2 with the following amended paragraph [0001]:

[0001] This application claims the benefit of the Korean Application No. P2001-05920 filed on February 7, 2001, ~~which is hereby incorporated by reference.~~

Please replace paragraphs [0009] and [0010] on page 3 with the following amended paragraphs [0009] and [0010]:

[0009] The A/D converter 103 samples the output of the SAW filter 102 with a fixed frequency of 25MHz and ~~digitalizes~~ digitizes the sampled frequency. A matched filter 104 adjusts a signal-to-noise ratio (SNR) of the ~~digitalized~~ digitized signal at a symbol position and outputs the ~~digitalized~~ digitized signal to a resampler 105 for recovery of a digital symbol clock.

[0010] The resampler 105 receives a timing error of current symbols generated by signal processing of a base band from a timing recovery portion 109 and interpolates the timing error to reduce an error between the ~~digitalized~~ digitized signals. That is, the digital signal sampled at 25MHz is interpolated at n times (n=2 in case of VSB) of a real symbol rate through the resampler 105.

Please replace paragraph [0031] on page 8 with the following amended paragraph [0031]:

[0031] To achieve these objects and other advantages and in accordance with the purpose of the invention, as embodied and broadly described herein, a digital demodulating device in a digital TV receiver includes: a digital signal processor ~~digitalizing~~ digitizing pass band signals of a particular channel transmitted in a VSB modulation mode; a base band demodulator multiplying the pass band digital signals by a complex sinusoidal wave with a recovered carrier wave to convert the pass band digital signals to base band digital signals; a carrier wave recovery portion detecting phase error of a carrier wave from base band pilot signals output from the base band demodulator, generating a complex sinusoidal wave relative to the phase error, and outputting the complex sinusoidal wave to the base band demodulator; a resampler interpolating a timing error of current symbols to reduce an error between the base band digital signals output from the base

band demodulator; a matched filter filtering the output of the resampler to maximize a signal-to-noise ratio (SNR) at a symbol position; a timing recovery portion obtaining a timing error of the current symbols from an output signal of the matched filter and feeding back the timing error to the resampler; and a channel equalizer compensating channel distortion included in the output signal of the matched filter.

Please replace paragraphs [0034] and [0035] with the following amended paragraphs [0034] and [0035]:

The digital signal processor includes a phase divider dividing the ~~digitalized~~ digitized pass band signal into pass band digital signals I and Q.

In another aspect of the present invention, a digital demodulating device in a digital TV receiver includes: a digital signal processor ~~digitalizing~~ digitizing pass band signals of a particular channel transmitted in a VSB modulation mode; a base band demodulating and carrier wave recovery portion multiplying the pass band digital signals by a complex sinusoidal wave with a recovered feedback carrier wave to convert the pass band digital signals to base band digital signals, and recovering the carrier wave from the converted base band digital signals to feed back the carrier wave; a resampler interpolating a timing error of current symbols to reduce an error between the base band

digital signals output from the base band demodulating and carrier wave recovery portion; a timing recovery portion obtaining a timing error of the current symbols from an output signal of the resampler and feeding back the timing error to the resampler; and a channel equalizer compensating channel distortion included in the output signal of the resampler.

Please replace paragraph [0038] on page 10 with the following amended paragraph [0038]:

[0038] In other aspect of the present invention, a digital demodulating method in a digital TV receiver includes the steps of:

- a) ~~digitalizing~~ digitizing pass band signals of a particular channel transmitted in a VSB modulation mode; b) multiplying the pass band digital signals by a complex sinusoidal wave with a recovered carrier wave to convert the pass band digital signals to base band digital signals; c) detecting phase error of the carrier wave from pilot signals included in the base band digital signals, generating a complex sinusoidal wave relative to the phase error, and feeding back the complex sinusoidal wave to the step b);
- d) interpolating a timing error of current symbols to reduce an error between base band digital signals output from the step b); e) filtering an output signal of the step d) to maximize a signal-to-noise ratio (SNR) at a symbol position; f) obtaining a timing error of the current symbols from an output signal of the step e); and g)

compensating channel distortion included in the output signal of the step e).

Please replace paragraph [0049] with the following amended paragraph [0049]:

[0049] The base band digital signals I and Q are output to the carrier wave recovery portion 300 and the resampler 206. The resampler 206 receives timing error of current symbols generated by signal processing of the base band from the timing recovery portion 400, interpolates the timing error to reduce an error between ~~digitalized~~ digitized signals, and outputs the interpolated value to the matched filter 207.